

LISTING OF THE CLAIMS

Claims 1-72 were originally pending. Please amend claims 2-3, 5, 7-8, 10-24, 26-35 and 37-42. Kindly cancel claims 1, 4, 6, 9, 25, 36 and 43-72 without prejudice. No claims are added or withdrawn. Accordingly, claims 2-3, 5, 7-8, 10-24, 26-35 and 37-42 remain pending.

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Canceled)
2. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extensible metadata is self-describing and further describes table layout information, data type definitions, code classes, members, and/or class inheritance information for both standard and non-standard metadata.
3. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extensible metadata further comprises table layout information, data type definitions, code classes, members, and/or class inheritance information.
4. (Canceled).
5. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extension includes design-time information, a value array, and/or generics extensible metadata.

6. (Canceled)

7. (Currently amended) ~~A The method of as recited in claim 17~~ 4, wherein compiling further comprises enforcing data format and table relationships in the extensible metadata with a extensible metadata schema, the extensible metadata schema differentiating standard metadata tables from non-standard extensible metadata tables.

8. (Currently amended) ~~A The method of as recited in claim 17~~ 4, wherein compiling further comprises tagging the extensible metadata such that is can be differentiated by a metadata consumer from the standard metadata.

9. (Canceled).

10. (Currently amended) ~~A The method of as recited in claim 17~~ 4, wherein compiling further comprises generating, by a primary compiler, a string heap to store character strings associated with the extensible metadata.

11. (Currently amended) ~~A The method of as recited in claim 17~~ 4, wherein emitting the metadata further comprises interfacing with an Application Programming Interface exposed by a runtime.

12. (Currently amended) ~~A method as recited in claim 1,~~ A computer-implemented method for generating extensible metadata, the method comprising:
compiling source code to generate an assembly;

during compiling operations, emitting metadata and extensible metadata into the assembly, the extensible metadata describing standard and non-standard metadata that represents an extension to standard metadata; and

wherein the extensible metadata comprises a MetaColDef table for identifying layout of one or more tables, the MetaColDef table comprising, for each table of the tables: a tag indicating that the table is extensible metadata, a substantially unique table identifier, data type associated with each column in the table, and/or table name and width.

13. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extensible metadata comprises a MetaToks table comprising one or more metadata tokens to index a metadata table or a metadata heap, each EM token indicating an indexed table and a row number of the indexed table.

14. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extensible metadata comprises a MetaCodedToks comprising one or more coded tokens, and for each coded token: an assigned number, a byte offset into a extensible metadata string heap to a corresponding name, a number of elements in a set of tokens being defined.

15. (Currently amended) A The method of as recited in claim 17 ~~4~~, wherein the extensible metadata comprises a MetaCodedVals table comprising type reference, type definition, type specification, field, and property information for extensible metadata coded tokens.

16. (Currently amended) A ~~The method of as recited in claim 17~~ +, wherein the extensible metadata comprises a MetaFeatures table comprising information for one or more new features, the information for each feature comprising a feature number, a substantially unique feature ID, a name of the feature.

17. (Currently amended) ~~A method as recited in claim 1; A computer-~~
implemented method for generating extensible metadata, the method comprising:

compiling source code to generate an assembly;

during compiling operations, emitting metadata and extensible metadata into the assembly, the extensible metadata describing standard and non-standard metadata that represents an extension to standard metadata; and

wherein a table described by the extensible metadata is associated with a new feature, the extensible metadata further comprising at least one suggested action for a metadata consumer to take with respect to the new feature, the at least one suggested action indicating the metadata consumer must understand semantics of the new feature or may safely ignore the new feature.

18. (Currently amended) ~~A method as recited in claim 1; A computer-~~
implemented method for generating extensible metadata, the method comprising:

compiling source code to generate an assembly;

during compiling operations, emitting metadata and extensible metadata into the assembly, the extensible metadata describing standard and non-standard metadata that represents an extension to standard metadata; and

wherein the extensible metadata comprises multiple respective rows of data, each row being tagged as extended, and wherein the extensible metadata further comprises uses feature information for each row of the multiple respective rows, the information identifying a specific table and table row, a feature number associated with an extension identified by the table row, and an indication of one or more metadata consumer types that should understand the extension to properly function.

19. (Currently amended) A The method of ~~as recited in~~ claim 18, wherein the one or more metadata consumer types comprise a browser, a linker, a compiler, and/or a runtime.

20. (Currently amended) A The method of ~~as recited in~~ claim 17 ~~4~~, further comprising:

loading, by a metadata consumer, the assembly into memory;

interrogating, by the consumer, the runtime to discover presence of the extensible metadata, properties, and/or representation of the extensible metadata.

21. (Currently amended) A The method of ~~as recited in~~ claim 20, wherein the loading and the interrogating are performed independent of modification to the consumer.

22. (Currently amended) A The method of ~~as recited in~~ claim 20 ~~4~~, wherein loading and interrogating are performed by interfacing with an Application Programming Interface exposed by a runtime.

23. (Currently amended) A The method of as recited in claim 20, wherein interrogating further comprises discovering data type definitions for a specific one of multiple extended features provided by the extensible metadata.

24. (Currently amended) A The method of as recited in claim 20, wherein interrogating further comprises determining at least one suggested action to direct the consumer with respect to use of the extensible metadata.

25. (Canceled)

26. (Currently amended) ~~A computer-readable medium as recited in claim 25;~~ A tangible computer-readable storage medium for extensible metadata, the computer-readable medium comprising computer-program executable instructions executable by a processor for:

compiling source code to generate an assembly;

during compiling operations, emitting metadata and extensible metadata into the assembly, the extensible metadata representing non-standard metadata that represents an extension to standard metadata;

wherein the extensible metadata is self-describing to a extensible metadata consumer, the extensible metadata comprising information to describe non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information; and

wherein the extensible metadata comprises multiple respective rows of data, each row being tagged as extended, and wherein the extensible metadata

further comprises uses feature information for each row of the multiple respective rows, the information identifying a specific table and table row, a feature number associated with an extension identified by the table row, and an indication of one or more metadata consumer types that should understand the extension to properly function.

27. (Currently amended) ~~A~~ The computer-readable medium of as recited in claim 26, wherein the one or more metadata consumer types comprise a browser, a linker, a compiler, and/or a runtime.

28. (Currently amended) ~~A~~ The computer-readable medium of as recited in claim ~~26~~ 25, wherein non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information is included in a MetaColDef table for identifying layout of one or more tables, the MetaColDef table comprising, for each table of the tables: a tag indicating that the table is extensible metadata, a substantially unique table identifier, data type associated with each column in the table, and/or table name and width.

29. (Currently amended) ~~A~~ The computer-readable medium of as recited in claim ~~26~~ 25, wherein non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information is included in a MetaToks table comprising one or more metadata tokens to index a metadata table or a metadata heap, each token indicating an indexed table and a row number of the indexed table.

30. (Currently amended) A ~~The~~ computer-readable medium ~~of as recited in~~ claim ~~26~~ 25, wherein non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information is included in a MetaCodedToks comprising one or more coded tokens, and for each coded token: an assigned number, a byte offset into a extensible metadata string heap to a corresponding name, a number of elements in a set of tokens being defined.

31. (Currently amended) A ~~The~~ computer-readable medium ~~of as recited in~~ claim ~~26~~ 25, wherein non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information is included in a MetaCodedVals table comprising type reference, type definition, type specification, field, and property information for extensible metadata coded tokens.

32. (Currently amended) A ~~The~~ computer-readable medium ~~of as recited in~~ claim ~~26~~ 25, wherein non-standard table layout information, data type definitions, code classes, members, and/or class inheritance information is included in a MetaFeatures table comprising information for one or more new features, the information for each feature comprising a feature number, a substantially unique feature ID, a name of the feature.

33. (Currently amended) A ~~The~~ computer-readable medium ~~of as recited in~~ claim ~~26~~ 25, wherein the non-standard table layout information, the data type definitions, the code classes, members, and/or the class inheritance information is

described in one or more tables that self-describe at least one new feature, at least one table of the tables indicating a suggested action for a metadata consumer to take with respect to the new feature, the suggested action directing the metadata consumer that it must understand semantics of the new feature or may safely ignore the new feature.

34. (Currently amended) A The computer-readable medium of as recited in-claim 26 25, wherein the computer-program instructions for compiling further comprise instructions for enforcing data format and table relationships in the extensible metadata with a extensible metadata schema, the extensible metadata schema differentiating standard metadata tables from non-standard extensible metadata tables.

35. (Currently amended) A The computer-readable medium of as recited in-claim 26 25, wherein the computer-program instructions for compiling further comprise instructions for tagging the extensible metadata such that is can be differentiated by a metadata consumer from the standard metadata.

36. (Canceled).

37. (Currently amended) A The computer-readable medium of as recited in-claim 26 25, wherein the computer-program instructions for compiling further comprise instructions for generating, by a primary compiler, a string heap to store character strings associated with the extensible metadata.

38. (Currently amended) A ~~The~~ computer-readable medium of as recited in claim 26 ~~25~~, further comprising computer-program instructions for utilizing the extensible metadata in a common language runtime computing environment.

39. (Currently amended) A ~~The~~ computer-readable medium of as recited in claim 26 ~~25~~, further comprising computer-program instructions for:

loading, by a metadata consumer, the assembly into memory;

interrogating, by the consumer, the runtime to discover presence of the extensible metadata, properties, and/or representation of the extensible metadata.

40. (Currently amended) A ~~The~~ computer-readable medium of as recited in claim claim 39, wherein the computer-program instructions for interrogating further comprise instructions for discovering data type definitions for a specific one of multiple extended features in the extensible metadata.

41. (Currently amended) A ~~The~~ computer-readable medium of as recited in claim 39, wherein the computer-program instructions for interrogating further comprise instructions for determining at least one suggested action to direct the consumer with respect to use of the extensible metadata.

42. (Currently amended) A ~~The~~ computer-readable medium of as recited in claim 39, wherein the computer-program instructions for loading and interrogating are performed independent of modification to the consumer.

43-72. (Canceled)